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Radiological Impact Assessment Of Radon In An Earthquake Prone Area: A Case Study Of Weija -McCarthy Hill In Ghana

We are surrounded with radiation, which is an essential component of our surroundings. Natural radiation flux is the main source of non-medical human exposure to ionising radiation. For the purpose of evaluating indoor air quality and researching the possible harm to human health, measurements of the radon gas 222Rn in the environment are crucial. After smoking, radon exposure is regarded as one of the major risk factors for lung cancer. Type of geology, indoor air quality, cracks, and building materials all affect the environmental radon concentration. Using LR-115 Type II strippable detectors, this study was conducted to measure the indoor radon levels in homes within an earthquake-prone area. The results show that the activity concentration of radon ranges 50.89 Bqm-3 to 365.65Bqm-3 with a mean value of 186.51 Bqm-3. The results of the study showed that the geogenic radon potential is strictly linked to the geological setting of an area in terms of the radon source, radon migration pathways (faults and fractures), and the mechanism of radon exhalation from soil gas to the atmosphere and indoor environment. In conclusion most of the investigated homes had radon concentration above the WHO recommended value of 100 Bqm-3 and risk communication on radon to populace implemented.

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